China Mobile enhances broadband experience with AI

Nokia AVA AI and Analytics

Case study

As one of the leading companies in China Mobile Communications Company (CMCC), Fujian Mobile (FJMCC) already had the number one position in mobile customer market share at 58% and also has a high home broadband market share of 35% with some eight million subscribers.

Despite these advantages, the company was facing significant challenges, with customer satisfaction that lagged behind its main competitors. Working with Nokia, FJMCC built an AI-driven Broadband User Perception Improvement solution that has narrowed the customer satisfaction gap, cut problem rectification time by 90% and improved total work efficiency.

The vision

With low user satisfaction, FJMCC needed an easier way to predict and prevent customer problems

FJMCC's major challenge was its users' perception of its home broadband service. User satisfaction for the services had lagged behind its main competitor for some years and in fact the company ranked second from bottom for this metric within CMCC.

Although COVID had seen a major trend of rising numbers of home broadband users, with a 400% year on year growth, churn rate was also growing rapidly. Customers were signing on with the provider quickly, but also leaving quickly as well, leading to a Net Promoter Score (NPS) that was four percentage points behind its main rival.

Few resources focused on each customer

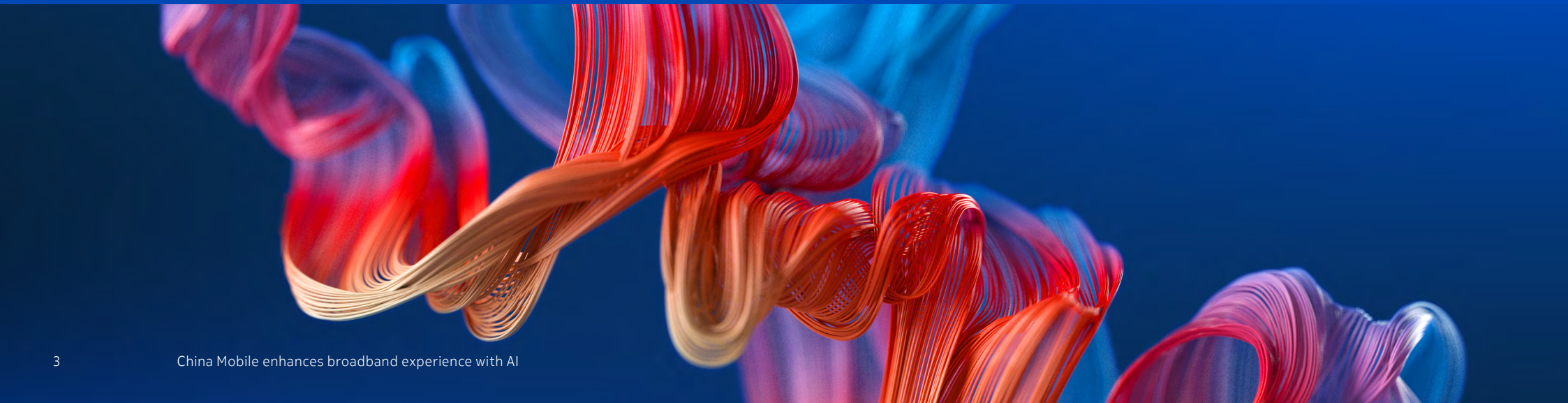
Looking at the reasons behind these results, FJMCC found that they use only 70% of the network resources per user compared to their competitor – they were simply not providing their customers with the service and support levels they needed.

One of the issues was the inadequate customer satisfaction data the company was receiving. This data was compiled by analyzing complaints and relying on third party surveys. This was time consuming, relied on too small a sample and was also affected by customers deciding to churn before their complaint was resolved, further affecting the reliability and usefulness of the information.

Traditional KPIs fail to take account of customer experience

Another factor was the inability to transform network advantages into experience benefits - traditional operations and maintenance procedures focus only on network KPIs, while customers only focus on experience. A wide range of products also increased the complexity of the CSP's operations.

FJMCC clearly needed a system that could differentiate between the types and levels of care needed by different types of users, which would make it easier to predict and prevent any problems customers might have.



The benefits

FJMCC saw dramatic customer experience improvements combined with large cost savings.

Home broadband user perception improvement in four months **19%**

Customer satisfaction gap narrowed by **90%**

Time to diagnose problems shortened from 120 minutes to only **10 minutes**

OPEX saving of around in euros per year **2.5 million**

How Nokia helped

An AI based solution helps FJMCC improve the experience of its customers.

Working with Nokia, FJMCC developed a transformation strategy built from three strands.

- The first strand is digital transformation. This is designed to improve the CSP's operational efficiency and increase revenue by making use of digital, intelligent, and automated operations.
- The second was to build a customer-oriented product operation system. It also wanted to implement a unified operations platform based on open application programming interfaces (APIs) and which could support AI models and Development and Operations (DevOps).
- The third strand of the strategy was to create a new Operations and Maintenance (O&M) model that focused on customer perception, and end-to-end quality management.

AI gets to the root of customer problems

To meet these goals, Nokia implemented an AI-driven Broadband User Perception Improvement solution. Based on China Mobile's big data and network AI platform, the solution identifies potential user dissatisfaction, analyzes the root cause, applies intelligent decision-making, and runs closed-loop evaluation.

The solution allows FJMCC to focus on customer care, experience assurance and experience improvement, allowing it to prioritize how it manages different customer experiences. This means that the most sensitive customers, those more prone to churn, can be prioritized, giving the most efficient improvement in overall customer satisfaction.

The closed loop evaluation of the AI platform allows FJMCC to continually improve its care strategies, the way it evaluates user satisfaction, its problem handling strategies and several other processes.

The opportunity

Customer satisfaction has been vastly improved.

The new solution benefits the CSP's users in several ways. It has allowed the development of new indicators that show how the user is actually experiencing the broadband service, while the key problems the users are seeing are also highlighted.

Identifying problems helps plan improvements

Another strong point is the root cause analysis that the solution makes possible. Bringing together all available information and analyzing it through the AI models identifies the problem and how it is affecting the users. Combining with a database of home broadband issues and common user problems and their causes helps FJMCC plan improvements to the services.

Overall, the system is estimated to identify poor customer experiences with an accuracy of almost 86%.

Customer satisfaction has been vastly improved, cutting the gap in customer satisfaction scores between FJMCC and its competitors by 90%.

Problems solved in 10 minutes

Subscribers have also seen their problems solved much more quickly, with the time to resolve issues falling from two hours to only 10 minutes. This cuts the need for human interventions by around 2,600 person days a month.

The number of site visits required is also expected to fall by 50%, with repeat visits being cut by 95%, saving around 2.5 million euros a year.

The customer's view

"Nokia is always a strategic business partner of Fujian Mobile, also a trusted contributor for Fujian Mobile Autonomous Networks construction. The value of Nokia Home Broadband User Perception Improvement Solution is well proven with home broadband end users' perception uplift. Really appreciated this innovated case can be recognized by TMF, expecting for further collaboration with Nokia in more business areas of digital/autonomous transformation"

LLin Wenzhou, General Manager of Network Division
China Mobile Fujian Branch Company

Nokia OYJ
Karakaari 7
02610 Espoo
Finland

Tel. +358 (0) 10 44 88 000

CID:213123

nokia.com

At Nokia, we create technology that helps the world act together.

As a B2B technology innovation leader, we are pioneering the future where networks meet cloud to realize the full potential of digital in every industry.

Through networks that sense, think and act, we work with our customers and partners to create the digital services and applications of the future.